

Appl. No. 09/844,175
Amdt. dated 06/17/2004
Office Action dated 03/17/2004

REMARKS

Applicant hereby cancels claims 73-74 and adds new claims 75-80, and accordingly, claims 31-42, 54-65, 67-70, and 75-80 are pending in the present application.

Applicants respectfully traverse the rejections of the Office Action and request allowance of the pending claims.

Referring to the indefiniteness rejections, Applicants submit that the conductive pads of the claims examined for the March 17, 2004 Office Action are not explicitly part of the invention defined by such examined claims.

With respect to the alleged indefiniteness of the claimed apex in the form of a knife-edge line, Applicants refer the Examiner to the specification teachings. In particular, page 9, lines 12-13 refer to Fig. 6 showing a plurality of exemplary apexes 40, 42, 44, 46 in the form of multiple knife-edge lines in the described exemplary embodiment. Referring to Fig. 5, lines 1-5 of page 10 of the specification state that such apexes have respective tips 58 and bases 60. Two dimensions of such apexes in the form of knife-edge lines are shown in Fig. 5 while a third dimension of the exemplary apexes in the form of knife-edge lines are shown in Fig. 6.

The language of the pending claims indicated to be allegedly indefinite is clearly disclosed by the drawings and specification teachings of the originally-filed application. When the claims are properly construed in view of the application teachings, it is clear that one of skill in the art would consider the allegedly indefinite claimed language to be definite.

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The Office is respectfully reminded that MPEP §2173.02 (8th Edition) states the essential inquiry pertaining to a §112, second paragraph requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

- (A) the content of the particular application disclosure;
- (B) the teachings of the prior art; and
- (C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

In reviewing a claim for compliance with 35 U.S.C. §112, second paragraph, the Examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. §112, second paragraph.

(citations omitted) MPEP §2173.02 (8th Edition). Applicants submit that the claims are clear and definite on their face. Moreover, one of ordinary skill in the art with the opportunity to consider and review the contents of the application disclosure pursuant to the above authority would clearly understand the language of the claims. "A fundamental

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principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers [and] [t]hey can define in the claims what they regard as their invention essentially in whatever terms they choose...." MPEP §2173.01 (8th Edition). Applicants submit that the pending claims are definite and understood by one of skill in the art. Applicants respectfully request withdrawal of the indefiniteness rejections for at least the above-mentioned reasons.

It is to be understood that any described arrangements, methodologies and associated remarks with respect to the indefiniteness rejections are only for purposes of illustrating that the above-identified terms are definite to one of skill in the art. Other additional arrangements and methodologies are possible and encompassed by the claims.

Referring to claim 31, Akamine refers to sharpened microminature tips for use in "contacting" and "non-contacting" implementations as discussed in col. 1, lines 54-60 and col. 6, line 44 - col. 7, line 24. The disclosed tips of Akamine are used in an atomic force microscope (AFM). It is stated in col. 7, lines 7-10 that in the "contacting" mode that the tip 102 *rides on the surface of a sample with an **extremely light tracking force***. There is no teaching or suggestion of the claimed *engagement probe comprising an apex configured to **penetrate** a single conductive pad*. Akamine is devoid of any penetration teachings. In fact, Applicants have electronically searched Akamine and have failed to uncover any penetration by tip 102 or other structure. To the contrary, Akamine clearly discloses tips contacting a surface of a sample with an extremely light tracking force or being spaced from

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a surface of a sample. Limitations of claim 31 are not taught nor suggested by the art.

Claim 31 is allowable for at least the above-mentioned compelling reasons.

Claim 31 recites limitations of previously pending claim 73. It is stated on page 6 of the Action that the limitations of claim 73 are inherent in the teachings of Akamine. Applicants disagree. The Office is reminded that, "in relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). Akamine is clearly directed toward tips which ride on the surface of a sample with extremely light tracking force or are spaced from the surface. It is also taught that the tips may avoid walls of an aperture (see Figs. 8A and 8B). In view of the light surface contact of a tip or spacing of a tip from a surface, not only does the penetration recited in claim 31 not necessarily flow from the teachings of Akamine, but Akamine teaches away from the claimed penetration limitations. Claim 31 is allowable for at least the above-mentioned compelling reasons.

Applicants respectfully request issuance of a *non-final action* if claim 31 is not allowed. In particular, Applicants respectfully request identification of elements which allegedly correspond to limitations of the claims in accordance with 37 C.F.R §1.104(c)(2). In particular, 37 C.F.R §1.104(c)(2) provides that *the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified*. Further, 37 C.F.R. §1.104(c)(2) states that the Examiner must cite the best references at their command.

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When a reference is complex or shows or describes inventions other than that claimed by Applicants, the particular teachings relied upon must be designated as nearly as practicable. The pertinence of each reference if not apparent must be clearly explained for each rejected claim specified. Applicants respectfully request clarification of the rejections with respect to specific references and specific references teachings therein pursuant to 37 C.F.R. §1.104(c)(2).

The claims which depend from independent claim 31 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

For example, referring to claim 38, it is recited that the *engagement probe comprises material of a bulk semiconductor substrate*. In support of the rejection of claim 38, the Office again relied upon inherency and Applicants disagree with such reliance.

In particular, as recognized by the Office on page 4 of the Action, Akamine discloses tip material comprising polysilicon. However, referring to col. 5, lines 35-40 and Fig. 4C of Akamine, the tip material is *deposited* within the mold cavity to cast a tip. Deposition of a material fails to disclose or suggest a bulk semiconductor substrate or provision of an engagement probe formed from a bulk semiconductor substrate. The limitations of claim 38 do not necessarily flow from the reference teachings. In fact, the clear recitation of deposition in Akamine teaches away from Applicants' claim 38. Allowance of claim 38 or issuance of a non-final Action is requested.

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Referring to the prior art rejection of claim 54, Akamine refers to sharpened microminature tips for use in "contacting" and "non-contacting" implementations where the tip 102 rides on the surface of a sample with an **extremely light tracking force** or are spaced from the surface. There is no teaching or suggestion of the claimed *engagement probe comprising an apex sized and positioned to **penetrate** a single conductive pad*. Akamine is devoid of any penetration teachings inasmuch as Akamine clearly discloses tips contacting a surface of a sample with an extremely light tracking force or being spaced from a surface of a sample. Limitations of claim 54 are not shown nor suggested and claim 54 is allowable for at least this reason.

The claims which depend from independent claim 54 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Applicants hereby add new claims 75-80 which are supported at least by Figs. 5-6 and 14 and the respective specification teachings of the originally-filed application.

New claims 77 and 79 recite limitations of respective ones of the previously pending independent claims 31 and 54 with the addition of an explicit recitation of conductive pad(s) and which are clearly supported by Fig. 14. New claims 77 and 79 are believed to be allowable inasmuch as Akamine is clearly directed towards tips lightly riding along a surface of a sample or being spaced from a sample, and there is no teaching or suggestion of the tips **engaging a conductive pad**. In fact, Akamine is directed towards mapping a surface

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of a sampl_ and is not concerned with conductive pads as claimed. Allowance of new claims 77 and 79 is respectfully requested.

Applicants request allowance of all pending claims.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: 6/17/04

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